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for "spontaneous hybridizing," it was rather a case of in-and-in breeding. The next year I cut the flowers open with a sharp penknife before their natural time, and applied pollen to some and not to others. The last did not seed, the former did—pollen being applied twice at an interval of two days. I was now sure that I had a fair cross. Unfortunately, before ripe, though in an unfrequented spot which I thought safe enough, something broke off the stalk, and that ended the year's experiment. The next year I went to work again. This time I called the attention of my workmen to the plant as one that I wanted saved, and so felt safe. But, sure enough, one day I went over where the unlucky scythesman had been, and my flower stalk was cut down! This time it occured to me that if the stalk were planted deep in the ground it would still mature seeds; and it did, though not a large number. These were sown, and a few came up last year. To my intense annoyance, these plants were in some way destroyed. Feeling, however, that all the seeds could not have come up, and that some even from the same brood will remain two years in the ground, I let the spot remain undisturbed, and this spring I had six plants come up, which have grown nicely all summer. Unless some accident occur to them, they will flower next year. It is because of my unlucky experience that I want to place on record the results so far as they have gone, lest some woeful experience again cut off the story before it is completed. Well, the *V. Blattaria* has, in the young state, dark green, smooth and shining leaves, and they are deeply sinuately lobed. The leaves of my plants are quite unlike these, nor are they quite entire, thick and wooly like those of the common mullein, but they are precisely like those of the wild plants of the same age and size of *V. Lychnitis.* I pray, as only a botanist can pray, that my pets may be preserved till they flower, so that I may positively settle the question of the origin of *V. Lychnitis.* In the meantime, the following facts seem beyond dispute:

Verbascum Lychnitis in this part of the world has no particular tendency to spontaneous hybridizing with other species. It seems to be a self-fertilizer. It is, we may say, in great probability, a product originally of *V. Thapsus* and *V. Blattaria.* We have only to leave absolute certainty of this last proposition to the next season.

THOMAS MEEHAN.

The "Indian Peach."—John Lawson, who was in this country between 1700 and 1708, says in his New Voyage to Carolina (London, 1709), a propos of the peach: "I want to be satisfy'd about one sort of this Fruit, which the Indians claim as their own, and affirm they had it growing amongst them before any Europeans came to *America.* The Fruit I will describe as exactly as I can. The tree grows very large, most commonly as big as a handsome Apple-tree; the Flowers are of a reddish murrey Colour; the Fruit is rather more downy than the yellow Peach, and commonly very large and soft, being very full of Juice. They part very freely from the Stone, and the Stone is much thicker than all the other Peach Stones we have, which seems to me that it is a Spontaneous Fruit of *America;* yet in those Parts of *America* that we inhabit, I never could hear that any

Peach-Trees were ever found growing in the Woods; neither have the foreign Indians that live remote from the English any other sort. And those living amongst us have a hundred of this sort for one of the other; they are a hardy Fruit, and are seldom damaged by the North-East Blasts, as others are. Of this sort we make Vinegar; wherefore we call them Vinegar-Peaches, and sometimes *Indian* Peaches."

The peach was introduced into North America both by way of Mexico and the Atlantic seaboard. Its introduction into Mexico occurred at a very early period, for in Molina's Mexican Dictionary, published in 1571, fifty years after the conquest, we find three names for it, all hybrid, Hispano-Aztec compounds: *xuchipaldurazno*, 'orange-colored peach,' *cuzticdurazno*, 'yellow-peach,' and *xocotlmelocoton*, 'peach fruit.' From Mexico, the peach appears to have gradually worked its way northward through Texas to Louisiana, where, according to LePage DuPratz, it was found in cultivation among the Indians when the French settled that province (about 1698), and where it was seen by P. Montigny in cultivation among the Taensas in 1699. In an alleged Taensa vocabulary which was published at Paris two or three years ago, and which contains a curious assortment of names of tropical, sub-tropical, temperate and arctic plants and animals known to these Louisiana Indians, the name of the peach is given as *yŏsblŭ-ĭtwĕ*, 'marriage-fruit.' From the gulf region the peach appears to have reached Carolina at a date, according to Lawson's Indians, previous to the settlement of Europeans in that province, where it was known to the Tuscaroras as *ru-ue*, and to the Waccons as *yannĕ*.

This antiquity of culture of some variety of the peach among the Southern Indians probably accounts for a curious fact to which it is more particularly the object of this note to call attention, and that is that among several of the prominent tribes which formerly inhabited what are now the Southern States there is a distinct name for this foreign fruit, whence are derived not only the names of other introduced fruits, but also those of our *native* ones. For example:

CHOCTAW (Choctaw-Muscogee):
  Prunus Persica, *takon* (a radical word.)
  P. Americana, *takon lŭsh*, or *takon ŭshi*, 'little peach.'
  P. Chicasa, *isi* i^{n} *takonlush*, the 'deer's little peach.'
  Pyrus coronaria, *isi* i^{n} *takon*, the 'deer's peach.'
  P. Malus, *takon tchito*, 'big peach.'
  P. communis, *takon tchito holba*, 'similar to the apple' literally, 'peach big like.')

MUSCOGEE (Choctaw-Muscogee):
  Prunus Persica, *pûkănû* (a radical word.)
  P. Americana, *pûkánû'ho* 'barren peach.'*
  P. Chicasa, *itcho im pûkánû*, the 'deer's peach.'
  P. pumila, *pûkănûtchi*, 'little peach.'

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* So called, says Mrs. A. E. W. Robertson, who kindly gave me these Muscogee names, because the tree does not bear so regularly as do two other species of plums common in the Indian Territory, where these Indians are now settled.

SHETIMASHA:
Prunus Persica, *wépt* (radical.)
P. Americana, *wépt-nákht-sĕbu*, 'little peach.'

CHEROKEE (Huron-Iroquois?):
Prunus Persica, *kwanu*^{n} (radical.)
P. Americana, *kwanunasti*, 'little peach.'

Has the "Indian peach" described by Lawson been perpetuated?

W. R. G.

On the General Exuberance of Pollen.—It seems to me, as I read, that a want of power to make legitimate deductions from facts is a common weakness with otherwise intelligent observers, and this occurs to me particularly when the subject happens to have relation to the cross-fertilization of flowers. Before me is a paper contributed to that excellent serial, the London *Gardeners' Chronicle*, on the "cross-breeding of cereals," in which the author lays great stress on the fact that this class of plants—one may say the whole order of Gramineæ consists of self-fertilizers. He points out how the pollen begins to shed, and the stigmas are in receptive condition before the florets expand, and that the objects for which anthers are formed "are fully accomplished before the stamens make their appearance outside the ear." But after this the anthers give out to the atmosphere an enormous amount of waste pollen, as any one walking through a grain field at that particular period has reason to know by his well smudged clothing. It has been found that an anther of wheat contains 6,864 grains, and that it takes 390,000 of them to weight but one grain. Rye pollen is heavier than that of wheat, or is yielded in larger quantity, for he gives 2 cwt. as the product per acre, while 50 lbs. is the pollen-product of an acre of wheat. He then emphasizes the fact that wheat, barley and oats are fertilized before the anthers are visible outside. After a while the reason for the usual abundance of pollen is sought for, and our author concludes "that the clouds of pollen in excess of customary requirements are but the exuberant provision by which nature has rendered the assurance of reproduction doubly secure." Exuberant is a good word, but "doubling" when the figures are 6,864 to the 1 required, is certainly placing the lion's share of the two halves of the double on the side of "exuberance." But what one who is accustomed to look for logical sequence can see in "assurance of reproduction" by giving pollen to the winds in the case of plants that self-fertilize—fertilize before the florets expand—is inexplicable. I think it must be admitted that not even with exuberance before us can this cloud of pollen have relation to any service to the plant, individually or collectively. I would submit that the reasons given in my Montreal address are more logical, *i. e.*, that plants are made to contribute to the general good, just as we are.

THOMAS MEEHAN.

Notelets.—Mr. George Taft of Uxbridge, Mass., has called my attention to a peculiarity in the leaves of an American elm which stands before his house. The tree is a large and very old one. The